ABSTRACT

Methods and Apparatus for Characterising Cells and Treatments

Methods, data processing apparatus and computer program products for characterising cells and the affect of treatments administered to cells are disclosed. In particular methods of identifying bi-nuclear cells are described which include capturing an image of a plurality of marked cells and processing image to obtain features of the plurality of cells. The features are analyzed to determine whether the feature is indicative of bi-nuclear cells. Those cells for which the first feature is indicative of bi-nuclear cells are identified as being bi-nuclear. Three algorithms in particular are described. A first algorithm can be used to determine the number of nuclei in an image of a nuclear component by determining the number of concave regions within the outline of the image. A second algorithm uses a measure of the amount of cytoplasmic material between a pair of nuclei to identify bi-nuclear cells. A third algorithm uses the statistics of the spatial distribution of objects to identify isolated pairs of nuclei which can be considered to be from the same cell.